

In favour of at least the partially respiratory function of their ventral sacs, the feeble development of the tracheæ in the above-mentioned Diplopoda and Collembola may be cited; in the latter the ventral tube, which is often very extrusible, corresponds to the first pair of ventral sacs of the Thysanura, and stigmata occur at the utmost (*Sminthurus*) on the anterior margin of the prothorax. Further in favour of this function is the fact of the deficiency of the ventral sacs in those Thysanura which possess a more highly developed tracheal system of the Orthopterous type, with strong ventral longitudinal trunks, such as *Japyx gigas* and *solifugus*, *Lepisma* (and *Lepismina*?). On the first abdominal segment of *Japyx*, the decidedly glandular function of the ventral sacs, as in the Chilopoda, which, according to H. Eisig (*l. c.* p. 392), is to be regarded as the primitive one, has apparently alone persisted. Any special glandular functions of the ventral sacs in other forms still need more accurate observations, which the author hopes to make very shortly.

That in reality the ventral sacs, of the Collembola for example, perform other functions is rendered probable by some observations upon the living animal, the results of which, however, are contradictory; thus Nicolet, Olfers, Lubbock, and Tullberg ascribe to the ventral tube the action of an adherent organ, while O. Renter regards it as an arrangement for the reception of water; in *Macrotoma*, again, A. Sommer has described large, unicellular glands, opening by a pore.

The ventral sacs of *Machilis* also show upon the dorsal surface a special glandular epithelium of much thickened, sharply defined cells, the plasma of which breaks up into fine, close cords, just as has been demonstrated by A. Weismann and C. Grobben for the excretory antennal glands of the Crustacea.

XXVIII.—*On the Nomenclature of the Oral Folds in the Shells of Clausilia*. By EDGAR A. SMITH, F.Z.S., and B. B. WOODWARD, F.G.S.

[Plate XI. A, figs. 1-4.]

It is well known to all conchologists that among the distinguishing features of the genus *Clausilia* the folds (*plisæ* and *lamellæ* as they are variously termed) within the aperture or mouth of the shell are especially characteristic.

They have been extensively relied on by specialists in formulating subdivisions of the genus, and hence a definite and correct nomenclature becomes of the highest importance to the student.

On this account, and in hopes of reducing to order the confusion which has arisen through the various applications of some of the terms, these notes have been put together and the accompanying explanatory table with the figures prepared.

Most of the available published descriptions are, unfortunately, either like those of A. Schmidt, unaccompanied by the figures so indispensable to their right understanding, or, where figures are given, as in Fischer's Manual, both are inadequate, since folds shown in the cuts are neither lettered nor described; indeed, we are free to confess that without an appeal to Cæsar certain points would still have remained doubtful in our minds.

Dr. Böttger, from whom aid was naturally sought in a question affecting a subject of which he is so perfect a master, not only most kindly afforded in writing the information desired, but also took the trouble to prepare and send over marked specimens \*, so that no doubt now remains respecting the correct identification of Schmidt's nomenclature.

For many reasons it seems best to employ the Latin terms which have been applied to these folds or plaits. Moreover, since the German specialists have carried the study in connexion with them furthest and have framed the most complete system of nomenclature, it appears most advisable to adopt Dr. Böttger's modification of Schmidt's terminology.

In the accompanying table (facing this page), to save space, these Latin terms are placed together in the first column, lettered to correspond with the figures, and not repeated, where the vernacular equivalents occur, in the following ones. By referring to this table and the illustrations the signification of any term employed by the authors quoted can be seen at a glance.

Perhaps it may not be out of place here to briefly sketch the history and development of this system of nomenclature.

Rossmässler appears to have initiated it. In 1835† he designated the two principal folds on the columellar lip as the *lamella superior* and *lamella inferior*, and named the *interlamellare* between them. A little later (1836)‡ he distinguished

\* Now in the Natural-History Collection of the British Museum.

† Iconog. pt. i. p. 75.

‡ *Op. cit.* pt. iii. p. 8.

ESSIN, 1876.	MOÛNE,	ROSSMÄSSLER, 1835-36.
lle.		Lamella superior.
.....	..	Interlamellare.
nelle.	re.	Lamella inferior.
lte.	llaire.	Columellarfalte.
	(ou, se	
nelle.		
umenfalte.	Plis p...	Gaumenfalten.
Gaumenfalte.	sup	
aumenfalte.	deu	
e.	troi	
	etc.asilaire.	
	infé	
	...	Mondförmige Falte.



Terminology recommended.	BÖTTGER, 1877 (Westerlund and von Möllendorff).	A. SCHMIDT, 1868.	FISCHER, 1881.	KOBELT, 1878.	CLESSIN, 1876.	MOQUIN-TANDON, 1855.	DUPUY, 1850.	PEFFEFER, 1848.	CANTHARINE, 1841.	ROSSMÄSSLER, 1835-36.
<b>On the Columellar Lip.</b>										
a. Lamella superior.		Oberlamelle.	Lamelle pariétale.	Oberlamelle.	Oberlamelle.	Lamelle supérieure.		Lamella supera.	Pli pariétal.	Lamella superior.
a'. Lamelle interlamellares.		Interlamellare.	Plis interlamellaires.	.....	.....	{ Plis interlamellaires { (Plies interlamellaires).		.....	.....	Interlamellare.
b. Lamella inferior.		Uterlamelle.	Lamelle columellaire.	Unterlandelle.	Unterlandelle.	Lamelle inférieure.		Lamella infera.	Pli columellaire.	Lamella inferior.
c. Lamella subcolumellaris.	Subcolumellarlamelle.	Subcolumellarfalte.	Pli subcolumellaire.	Subcolumellarfalte.	Spindelfalte.	Pli columellaire.  (ou, sous-columellaire).		Plica subcolumellaris.	Pli subcolumellaire.	Columellarfalte.
<b>On the Columellar Wall (not visible from without).</b>										
d. Lamella parallela.		Parallelamelle.								
e. Lamella fulcrans.		Lamella fulcrans.								
f. Lamella spiralis.		Spirallamelle.	Pli spiral.	Spirallamelle.	Spirallamelle.					
g. Lamella inserta.		Lamella inserta.								
<b>On the wall of the Outer Lip.</b>										
		Gaumenfalten.				Plis palataux.	Plis palataux.	Plicæ palatales.	.....	Gaumenfalten.
a. $\left. \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \right\}$ Plicæ suturales. &c.	$\left. \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \right\}$ Plicæ suturales. &c.	Plicæ suturales.	$\left. \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \right\}$ Plicæ (or, pliculæ) suturales. &c.	Suturalfalten.	Obere Gaumenfalte.	supérieur, ou premier. deuxième. troisième. etc.	premier. deuxième. troisième. etc.	(a) supera	Pli sutural.	
i. Plica principalis.		Plica principalis.	Plis palataux.	Principalfalte.	Mittlere Gaumenfalte.			(b) infera.	Pli basal, ou basilaire.	
k. $\left. \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \right\}$ Plicæ palatales. &c.	$\left. \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \right\}$ Plicæ palatales. &c.	Plicæ palatales.		Gaumenfalten.	Untere Gaumenfalte.	inférieur, ou dernier.				
l. Plica lunata (or, Lunella).		Mondfalte.	Pli lunulé, ou, Lunelle.	Mondfalte.	Mondfalte.	Pli lunulé, ou, Lunella.		Lamella, or, Plica lunata.	.....	Mondfirmige Falte.